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ABSTRACT

For knowledge of organizational communication to increase, new concepts must be developed and correlative or even causal relationships between communication concepts and other organizational variables must be established. Here, meanings of "organization," "information," "communication," and "other organizational variables" are explicated, and three dimensions useful to organizational communication--structure, function, and system level--are introduced. Prior works on these dimensions are reviewed. New research questions based on these concepts are suggested. These questions, which are important both for theory-building and for solving real-life problems, concern three areas: indices of work performances, the economic aspects of communication, and the relationship between the communication practices of an organization and their impact on the feelings of dignity and self-worth of the members of that organization. (JK)

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New Directions in the Study of Organizational Communication

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Although the study of human communication processes in organizations has progressed considerably in the past two decades--with important developments in predictively fruitful concepts and useful methods--much of the work remains isolated and unintegrated across a wide spectrum of academic areas. The purpose of this paper is to describe concepts we feel are important for analyzing communication processes in organizations, and to point out some of the methodological developments related to these concepts. At the conclusion of the paper we discuss some of the major research topics which we feel should be the main focus of organizational communication inquiry. We present our comments within the context of certain dimensions of organizational communication which we feel increase coherence in what has been a diversified and unintegrated body of knowledge.

Our approach to the study of communication in organizations rests on two basic related tasks for the generation of knowledge in a relatively undeveloped area. First is the crucial task of explicating concepts that permit description and analysis of communication and/or information systems in organizations. While this task is underway, we also seek to establish correlative or even causal relationships between communication concepts and other organizational variables. To clarify our intent in specifying these two tasks, we begin by providing a brief description of the terms "organization," "information," "communication," and "other organizational variables," as we currently view them.

"Organization." The literature contains many well-known definitions of "organization," ranging from single sentences to one of Piet Hein's charming "Grooks." Writers in the fields of management, psychology, sociology, labor and industrial relations, communication and other fields define the concept somewhat differently. For our purposes, however, the core notions involved in "organization" include the following five elements: two or more individuals who recognize that certain goals can be better achieved through interdependent

rather than individual action, take in information and/or materials from the larger environment, operate on them in some fashion, and return the modified inputs to the environment. As these processes occur, relatively stable and regular patterns of work and communication activities can be observed. The goal of organizational communication scholarship is to construct concepts for the description and analysis of both the information and communication aspects of organizations.

"Information." The concept of "information" has also been defined in numerous ways. A succinct and useful discussion of the concept is found in the work of J. G. Miller (1955). First, he suggests, consider the movement of energy in a system. Note that the "system" can be defined at any level, from the most macroscopic to the most microscopic; and that the "energy" being moved can be exemplified by sound or light waves--or by some material equivalent, such as the printed message. As the energy moves within the system, some of it may exhibit patterning; the remainder--that which is not patterned--we label "noise." Only when the system's participants recognize the patterning is "information" possible, i.e., one can tell whether a particular pattern is present or absent during a specified energy flow. Over time, it is possible to specify how likely any given pattern is, or what other patterns it occurs in conjunction with, and so on. Note that this definition of information is highly dependent on the perceptual processes of the human observer; Morse code to the uninitiated will be interpreted as "noise."

Buckley (1967, p. 47) also describes information as patterned energy:

> Though "information" is dependent on some physical base or energy flow, the energy component is entirely subordinate to the particular form or structure of variations that the physical base or flow may manifest. In the process of transmitting information, the base or carrier many change in many ways--as in the production or reproduction of sound via phonograph records--but the structure of variations in the various media remains invariant over the carrier transformations.

In its most primitive form, then, the concept of "information" refers to the move- of matter-energy which on occasion exhibits patterning that is perceived by some member of the system.

We can put this discussion of information into perspective by first recognizing that there is far more patterned matter-energy--"information"--in the environment than any organization can absorb. Reindl (1970, pp. 36-39) develops this point further by outlining some conceptual distinctions between information that is available in the environment and that which is ultimately utilized by the organization. The various distinctions involved in this process are shown in Figure 1 (Reindl, 1970, p. 37). An important point to be gained from the diagram is the crucial importance of decision rules operating at each level to separate noise from information, and to accept some information and reject other. The members of an organization define their environment in one particular way (but usually that definition changes over time), among a very large number of ways it could be defined.

Within the organization, two very useful categories of "information" can be distinguished--Brillouin's (1956) distinction between "absolute" and "distributed" information. The former terms refers to the number of unique patternings of energy recognized by members of the organization. Absolute information increases as new patterns are perceived by at least one member...and decreases as existing ones are forgotten by all members. Distributed information, on the other hand, refers to the homogeneity of information within the system. To what extent is the information widely dispersed, or concentrated within a few members of the system? The distinction between absolute and distributed information (and the fact that quite different organizational problems arise from difficulties with either of them) is illustrated by the lament: "My boss has the information I need to do a good job, but he just doesn't give it to me!" Often, the subordinate will hold this view, while the supervisor denies it vigorously on the grounds that he simply doesn't have the information--not that he's withholding it. Thus

what the subordinate sees as a problem of distributed information, the supervisor sees as a problem of absolute information.

"Communication." In the diagram in Figure 1, "communication" is shown as a subset of "information." It is portrayed this way to indicate that "Information" only has "communication" value when members of the organization have agreed-on referents for the units of information. In simplest terms, then, communication is "a process involving the transfer of matter-energy that carries symbolic (i.e., referential) information" (Berlo, 1970, pp. 2-3).

We can perhaps clarify the relationships among these terms by considering two persons in face to face contact. The sound waves reaching each other's ears are the energy flows. Human speech involves sending and receiving particular patterns imposed on the energy flow; that which isn't patterned is noise. While both participants may recognize certain patterns, only if there is some agreement between them as to the referents of the patterns is communication possible.

Communication exchanges are obviously ubiquitous in organizations, so much so that some writers equate the two. However, there are many organizations where communication is kept to a minimum (an extreme example being a religious community holding to vows of silence). Conversely, there are organizations where communication and the satisfaction to be gotten from it are the primary outputs of the organization. Consequently we would like to treat communication and organization as overlapping but somewhat independent terms.

"Other Organizational Processes." We view these in terms of the rich and varied concepts dealing with organizational aspects that are not specifically communication processes, but which may be related to communication processes. The best way to distinguish these processes is to test whether they deal primarily with the transfer of patterned matter-energy, with or without symbolic referent. If they do, then they are primarily within the domain of our interest. If they do not, then they belong primarily in the domain of some other field.

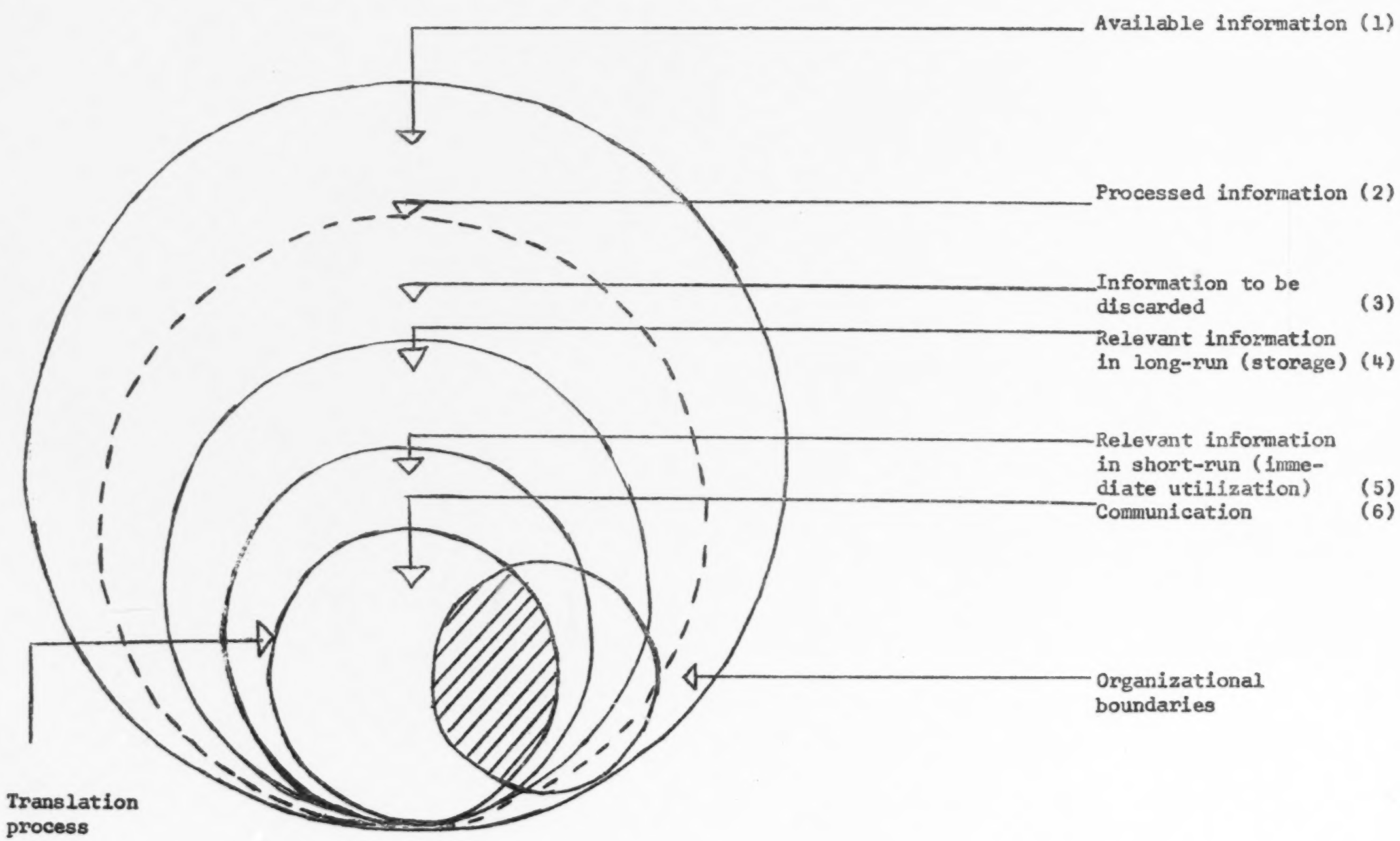

Figure 1. Information for decision-making in organizations

Examples of these concepts are the individual difference phenomena such as the attitudes, knowledge, goals or values, degree of self-actualization, or other internal psychological states of members of an organization. We would include here such system output concepts as efficiency, productivity, job participation (e.g., tardiness, absenteeism, turnover, etc.). We would also include here the more macroscopic concepts of growth, adaptivity, etc.

The Need for Communication Concepts

It is apparent that such an assertion leads easily to the charge of provincialism, if not unwarranted territorialism. However, we believe there is an important rationale supporting such a view. At the beginning of the present paper, we distinguished between the need to "develop...cocepts that describe information and/or communication systems..." from the need to "establish causal or correlative relationships between communication concepts and other aspects of the environment." The terms develop and establish were used with intent, for we see the major task facing scholars of organizational communication (as is the task of social science in general) as that of concept development (explication), including, of course, operationalization.

When one examines the relative accomplishments of various fields contributing to the study of organizations, it becomes clear that the concepts and measures of work satisfaction, attitudes about organizations, work performance and motivation, etc., have been much more fully developed than have concepts and measures dealing with information and communication. This is not to say that these other areas are free of conceptual or operational problems--there are too many theoretical and methodological debates under way to make this likely--but rather that they are "overdeveloped" in comparison to concepts dealing with information/communication processes in organizations. Therefore, we urge de-emphasizing the effort applied to the other organizational concepts until intellectual parity is more established. The problem this poses, of course, is that these other areas are so attractive--they have received far more attention in the past; the

"pay-off" for working in them is more known. Thus in order to make it possible to "establish correlative or causal relations" between information and communication concepts and other aspects of organizations, we feel it imperative that a significant amount of talent and resources be applied to the communication aspects of organizational behavior. This is the sense in which we urge greater territorialism--regardless of the field from which the study originates.

This is not a new idea. More than a decade ago, Coleman (1958) indicted the use of aggregative statistics and individual differences in attempts to study transactional or relational processes, such as communication. Even today, most of the concepts used in information and communication get at the notions of the transfer of energy--of process--only indirectly or obliquely. For example, most of the extensive research on the effects of exposure to messages deals primarily with the changes these messages induce in receivers...and not with the precise nature of the characteristics of the messages which led to the observed effects.

More recently, Krippendorf re-opened the issue by criticizing most approaches to generating data on communication on the basis that they simply do not provide adequate direct evidence of communication processes. He states the problem as follows (1970, p. 252):

> To explain social behavior in terms of the relations among individuals or among societal units presupposes that the relations of interest are explicitly defined in relevant data, and not merely inferred from their presumed behavioral consequents.

Krippendorf emphasizes that studies of individual differences in communication behavior are poor sources of data in that the process of interaction is not itself being scrutinized. He also points out that studies which attempt to map communication networks in organizations fall short--they reduce the on-going process to a static and hence incomplete form. He stresses that it is the process of information and communication which must be sutided, and that requires concepts only rarely discerned in the literature.

Given these criticisms, the important task becomes one of breaking free of the constraints of previous conceptualizations and methods, and developing improved ways of studying human communication in organizations. The remainder of this paper is devoted to our attempts at organizing the existing literature in such a way as to facilitate emergence of improved concepts and methods...and to indicate some of the research topics we consider of immediate and central importance.

Three Dimensions of Organizational Communication

We have elected to study organizational communication in terms of three dimensions: structure, function, and system level. By structure, we refer to the repetitive, relatively stabilized sets of communication relationships found among members of the organization. By function, we refer to the effects or consequences of communication. And by system level, we refer to the degree of aggregation of individuals being studied, ranging from the simplest system (the dyad) to the entire organization.

Structure, function, and system level are not the only possible dimensions--or even necessarily the best ones--for approaching the study of organizational communication; however, they have helped us greatly in organizing what has been done in the field, and determining what is apparently needed in the field. The dimensions are not to be considered as equivalent; rather, system level is the basic dimension, and structure and function are most clearly seen within various system levels.

Communication Structure. One readily discernible feature of an organization's communication system, as it is examined over time, is that repetitive patterns of information and communication exchange take place. We will use the term "message flow" as a simpler way of making this point.

Some members of the organization interact with one another, but not with other members. They interact more often some times than at other times. Their interaction may cover certain topics; at other times it doesn't. Certain topics never

occur in the interactions among some members of the organization. When management sends out messages to subordinates, the messages travel various pathways or networks--some intended and some not. These are all instances or examples of the communication structure of an organization...structure defined in terms of the message exchange patterns among organizational members, rather than on alternative bases for defining structure, such as authority or power.

The analysis of communication structure has developed along three research traditions. The first is based on the study of artificially constructed networks operated in experimental laboratory settings. The second derives from applications of sociometry to communication relationships. And the third is based on studies of the movement of messages in organizations. While we have discussed structure primarily in process terms, it is important to note that the first two of these research inputs treat structure as fixed or static in nature.

The laboratory network studies of communication structure originated in the late 1940's by Bavelas, Leavitt, Shaw and others. In these studies, various types of networks were first established, such as the circle, wheel, "Y", chain, or "completely connected" group. Various sizes of networks were manipulated--3,4,5, or sometimes more members. The type of task performed by the group members, the mode by which members could communicate, and other aspects of the situation were varied. A crucial aspect of these studies, however, is that structure was always controlled by the experimenter to a large degree, i.e., the possible flow of communication was limited and structure treated as an independent or predictor variable.

Two main kinds of dependent measures were used in these studies--problem solving, and member satisfaction. Although a number of qualifications are necessary, the major findings of these studies are that the more independence a network member has, the more satisfied he is. And the more interconnected a group is, the more likely it is to solve a problem which requires the pooling of

unique pieces of information held by individual members (Shaw, 1964).

A number of structural concepts were developed in these studies, namely centrality, independence, and saturation.

It is this line of research that is most often cited when organizational writers discuss communication (see Guetzkow, 1965, for example). And while these authors typically make quite clear that they are on shaky grounds in generalizing these findings to large, on-going organizations, they nevertheless find themselves impelled to make such generalizations.

The second input to communication structure utilizes the methodology of sociometry, restricting the basis on which relationships are defined to some types of communication contact. In these studies, all members of an organization (or members of a group within it) are asked to indicate the persons with whom they interact, at several frequencies of contact. Sometimes, the respondents are also asked to indicate the importance they attach to these interactions. Another potentially important variant in this procedure is to ask the respondent to rate each of his contacts in terms of the function of interaction, e.g., work-related, discussion of new ideas, social relationships, etc.

Workers in this area have struggled with the problem of how best to represent and analyze the results of their respondents' testimony about communication contacts. Graph theory has been explored, but generally has been found wanting (Guimaraes, 1968; Richards, 1971). The use of matrices to represent these contacts has proved a much more enlightening way of studying networks. In these matrices, the respondents are arrayed along one dimension, while their contacts are arrayed along the other. Cell entries are typically binary, with "1" representing a report of communication contact, and "0" representing its absence. Some techniques allow for cell entries reflecting the probability of contact (Ross and Harary, 1955) or the direction of contact (Katz, 1947; Forsyth and Katz, 1946).

Analysis of these data have centered around a number of communication roles: these include the isolate (the person not in contact with anyone), the

dyad or two-person system, the communication group member (with group based on the degree to which a set of individuals communicate more with each other than with persons outside the set), and liaison. The liaison acts as a connector or link between groups.

The liaison concept has received perhaps the greatest attention of all the communication structural concepts. For example, Walton (1963, p. 109) hypothesizes that an organization is "primarily a communication network, which is dominated by a number of 'magnetic centers' that draw messages to them." With some reservations, one may equate the liaison with the "linking-pin" function in organizations posited by Likert (1961).

Given this type of data, a number of other concepts can be developed. The integration or cohesiveness of the individual (as measured by the proportion of total organization members he contacts), the group (as measured by the degree to which members are all in one-step contact), or the organization (as measured by the extent of dyadic relationships, the overlappingness of groups, etc.) can be determined. If the data are gathered on more than one type of communication, then network identity can be determined. The networks can be compared with the formal organization chart and inspected for areas of convergence or divergence, and measures of network discrepancy can be created.

The analysis of communication structures through sociometric techniques has had a number of contributors. The first analysis of the liaison structure of an organization was conducted in 1950 by Jacobson and Seashore, who examined a federal bureaucracy (Jacobson and Seashore, 1951). The area generally lay dormant until Schwartz' (1968) study of liaisons in a college of education at a large university, and MacDonald's 1970 study of another federal bureaucracy. One commercial organization has conducted a large number of communication structure analyses (Propst, 1970). The work of this organization has been related to the "office landscape" research, in which communication structure maps are used to help determine the optimal physical work environment for an organization (Pile, 1967).

One of the main reasons that work in this area has lagged is that the amount of hand labor involved in analyzing even a relatively small organization is prohibitive. Once the data are gathered, the analyst generally defines some minimum condition for indicating a dyadic relationship, and then deletes the non-dyadic entries from the data. Then, persons who share similar communication contacts are grouped together. Rules must be established for inclusion in(or exclusion from)a group, and finally the liaisons or other group interconnectors must be identified. Several hundred man-hours of effort are required for analysis of a network of 150 to 200 persons. However, like many areas, this problem seems amenable to computerization, and at least two such programs have been written and tested (Ross & Harary, 1959; Richards 1971).

The third area which has potential for the study of communication structure comes closest to studying it as a process, rather than as a static form. This is found in the "message flow" research (Milgram, 1969; Shotland, 1969; and Davis, 1953). In these studies, the investigator introduces messages into a social system and then traces their spread. By introducing a sufficient number of messages, it is presumably possible to identify those persons who are most and least likely to be recipients and/or transmitters of the messages. It is also possible to determine the variety of paths or networks which different messages take. There are possibilities for studying message <u>distortion</u> as it travels through the organization, to examine relative <u>speed</u> of transmission, etc.

The outline for such studies is relatively simple to state, but very difficult to implement effectively. The initial requirement is for some set of theoretically useful message categories which can be systematically manipulated in order to trace their effect on message pathway, distortion, speed, or whatever is of interest. No published studies have yet dealt very satisfactorily

with this issue; instead, single categories such as "gossip items" are used, or respondents are simply given a set of information about a "target person" and told to figure out how to send the message to him. There are of course significant ethical problems involved in constructing artificial messages for insertion into any system, as opposed to utilizing existing messages.

One temporary solution to the problem of message categories is found by analyzing the relationship between the message source's intentions and the subsequent effects of the message. This procedure in effect becomes a test of the skills of a given communicator in an organization of predicting what his messages will accomplish, whom they will reach, how they will be interpreted, and so forth. The problem of message categories occurs again in our discussion of the function of communication.

Functions. This dimension is a compromise solution to an intricate set of issues. The focus here is on the actual messages which move in an organization. Ideally, message concepts should be based on specific characteristics of messages, characteristics which are systematically related to other organizational variables. Greenberg and Razinsky (1966), for example, predict that as the number of errors in grammar, spelling, and punctuation of messages increase, the message and its source will be devalued and comprehension of message content will decrease. Their hypotheses are supported, although fairly gross levels of error are required to effect significant changes in attitude and comprehension. Miller and Hewgill (1964) make similar predictions related to the occurrence of oral non-fluencies, with similar results.

Some authors have addressed the issue by defining categories of messages which presumably can be used to study the functioning of an organizational communication system. Often these categories are based on the organizational division from which they originate, e.g., accounting, research, control, etc.

(Elion). Or the categories may be content-free, and based on message aspects which can be assessed in a very wide variety of settings. One promising example is the set described by Ackoff, (1957), who argues that messages can be indexed according to their degree of information, instruction, or motivation:

> We shall say that a communication which changes the probabilities of choice, informs; one that changes the efficiencies of courses of action, instructs; and one that changes the value of outcomes, motivates.

Two serious problems are encountered in these message-centered approaches. The first is that where operationalization has been carried out and studies conducted, the amount of variance explained in various dependent measures has been relatively small. Second, the techniques for categorizing or generating messages have not been worked out very effectively.

An alternative to studying messages directly, of course, is to look at their effects--or consequences--or functions in terms of the participants in the organization. Katz and Kahn (1966) present two taxonomies of communication function in organizations. The more general is based on Parsonian concepts and posits a series of organization sub-systems into which communication functions can be classified: production, maintenance, adaptation, and management. The second taxonomy focuses on superior-subordinate communication functions: job instructions, job rationale, organizational procedures, and the indoctrination of employees into organizational goals.

Thayer (1967, pp. 94-96) notes three functional categories: operation, regulation, and maintenance-development without elaborating on their consequences to any great degree. Berlo (1970, pp. 8-11), however, does carry the discussion of functional categories considerably further. He proposes three functions:

> ...production (getting a job done), innovation (exploring new behavioral alternatives), and maintenance (keeping the system and its components operating).

The production function deals with messages whose effects or consequences are to ensure that the members of the organization carry out the tasks that must be done in order to generate the organization's output. It includes messages that specify the type and amounts of output, that indicate correspondence with these specifications, and that resolve work-flow problems. Most of the flow of these messages is along the lines of authority and hierarchy established in the organization chart. Information systems built in many organizations attend primarily if not exclusively to reports on aspects of production.

In contrast to messages which affect the on-going production activities of an organization, the innovation and maintenance functions are much more complex. The importance of innovation is based on the degree to which managers view their environment as rapidly changing--in ways perceived as potentially threatening to the status quo--and their desire for the organization to in some sense operate "efficiently" (ranging from a desire to maximize the output-to-input ratio, to long-term survival). The innovation function has two basic components--the eliciting or <u>generation</u> of proposals, suggestions, new ideas (which can be called creativity), and the <u>implementation</u> of the new ideas which are chosen to improve "efficiency" (a process typically labelled as the diffusion of innovations). In sum, then, innovation communication refers to messages which either generate new behaviors or implement such behaviors once generation has occurred (and some decision process has accepted them as system goals).

Fostering innovation communication is seldom an easy task, particularly in organizations with strong emphases on production. For subordinates to be willing to propose new ideas, managers must foster feelings of trust and openness; they must evidence a genuine desire for new ideas, and probably introduce

some type of pay-off (financial or otherwise). The "suggestion system" is a primitive and an occasionally useful form of this. Implementation is also a very difficult task, as repeatedly shown in actual experience...and as discussed in the literature on organizational development and change.

Maintenance communication serves a purpose which is quite distinct from production or innovation communication. Berlo discusses the maintenance function in terms of three sub-categories: the maintenance of self-concept, the maintenance of interpersonal relationships with others in the organization, and the maintenance of the production and innovation functions within the system. Another way of stating these three distinctions is this: maintenance communication is that which bolsters the member's feeling of personal worth and significance...his feelings of satisfaction with and reward from interaction with co-workers, supervisors and subordinates...and his values for generating new ideas and assisting in their implementation...and getting the work done.

System Level. Most of the research on communication in organizations is at the level of the individual, both in terms of data gathering and analysis. Studies have been made of the frequency and duration of communication contacts, of the use of interpersonal vs. mediated channels, of participation in various information systems (including control of message flow), of individual reactions to message overload, etc. (Burns, 1954; Hickey, 1968; Zajonc and Wolfe) Typically, individual differences in communicative and other behaviors have been examined apart from consideration of the larger setting, which provides constraints and context within which individual behaviors can often be best interpreted.

While studies of individual differences are often not defined in terms of systemic relationships, the dyadic level is considered to be the simplest

interpersonal system, and it includes an additional set of concepts which are not found when studying individuals in isolation.

The initial concern at the dyadic level is with the question of reciprocation. To what extent are dyads in existence in a system, how are they distributed, how stable are they over time, how strong are their bonds, etc. Other dyadic concepts deal with the accuracy and agreement across dyads about the nature of their communication relationship. Accuracy refers to the correspondence between one dyad member's view of some object or event and his partner's predictions about it. Agreement refers to the similarity of positions held by both members of the dyad.

Still other dyadic variables deal with the relationship aspect of communication (in simplest terms, whether a dyad member is "one up" or "one down" at various points in the dyad's existence). The concepts of symmetry and complementarity have been dealt with extensively by Watzlawick, et. al. (1967). These concepts are particularly relevant to the general question of communication "openness" between supervisor and subordinate, and among colleagues (Goliembiewski and Blumberg, 1970; Halpin and Croft, 1963).

To assume that analysis of dyadic relationships is a simple matter may be dangerous. Such computer models of dyadic interaction as HOMUNCULUS (Gullahorn and Gullahorn, 1963) have been years in development, requiring the most sophisticated concepts and methods.

At this point in considering a taxonomy of system levels we face another difficult issue. What is the next "logical" level? It is tempting to say, "On to groups, divisions, and intact organizations!" But on what criteria can this escalation to more complex systems be defended? Weick (1969, pp. 24-25) argues that all necessary components of communication relationships can be studied in "organizations" with not more than nine members. He contends that

the crucial transitions--points at which increase in membership provides specific and specifiable additions to the model--occur at these points:

1 to 2: the basic unit of social interaction is formed; departure of one destroys the system.

2 to 3: coalitions are possible, with their implications for control.

3 to 4: while a dyad cannot necessarily rule, stalemates can occur.

4 to 7: although two dyads can coalesce for control, a triad can do its will if the dyads do not join. Minority rule is possible.

7 to 9: perfect symmetry in terms of the above; with three triads, there can be coalitions at two levels.

On the other hand, we have been arguing that <u>context</u> is an important variable. Thus, Weick's comment (p. 25) that "different processes are triggered when different combinations of people are possible," may be a necessary but not a sufficient condition for considering size of organization studied.

In spite of the inability to clearly state the "gain" derived from each level, we tend to organize our research on organizational communication around four levels: individual, dyad, small group (without sharp limits on size), division or department, and intact organization. We have done this primarily for practical reasons--most of the literature falls quite clearly into these categories. Other than that, we hold no particular brief for the divisions listed; as we unravel the issue of which concepts distinguish increasing levels of communication system complexity, we will revise these dimensions accordingly.

In Figure 2, we summarize the communication concepts we have been discussing.

Level of Analysis	Variable Label	Comment
Individual	Frequency of Communication	"Direction" -- up, down, peer
	Duration of Communication	(As above)
	Message Consumption	Mediated Interpersonal
	Participation in the Information system	Suggestions Grapevine Control of message channel, timing, content
	Mode of communication	All, including the nonverbal
	Content-function	Production, innovation, maintenance
	Load	Overload, underload, processing behavior
	Contact diversity	Location, status, relation to system boundaries
Dyad	Reciprocation	All combinations of ego-alter; agreement, accuracy
	Sequence	Initiation, response, escalation
	Punctuation	With sequence, indicates pattern
	Relational Aspects	Complementary, Symmetrical
Work-Group	Structure	Duration, integration (centrality)
	Flow	Time, route, modes, transmission vs. feedback loops, saturation, distortion
	Roles	Liaison, bridge, group member, isolate
	Openness	Several measures of "climate"
	Code	Inter-group translation
Organization	(All of above, with previous levels taken as units)	

Figure 2. Communication Variables at Levels of Analysis

Discussion

Given the concepts that have been described in this paper, what are some of the important research questions to which they can be applied? We have chosen questions which are important for theory-building and which offer considerable payoff for resolving some of the communication problems of contemporary organizations. First, however, comments should be made about the criterion measures ("other organizational variables," from the earlier discussion) of interest: while we give emphasis to indices of work performance, and to the economic aspects of communication, we are also concerned with a quite separate and relatively neglected area. This is the relationship between the communication practices of an organization and their impact on the feelings of dignity, self-worth, and overall self-evaluation of the organization's members. From the moment socialization of new members begins, two broad types of involvement in communication can have considerable effect on the individual's self-view: interaction with supervisors and peers, and participation in the organization's information system.

Communication Structure Research Questions. When a group of individuals organize, what are the various types of communication structures which might emerge? How rapidly does a relatively stable structure form, if at all? What is the stability of various structures under the impact of external forces? To what extent does replacement of members affect the stability of a communication structure? What is the effect of growth of an organization on its communication structure?

Are there "optimal" structures, depending on the purposes around which the organization exists? One of the currently popular goals in many organizations is increased openness, both in physical layout and in supervisor-subordinate interaction. What are some of the consequences achieving this, both for the organization as a whole, and for its members?

How can existing structures be bypassed, or altered rapidly, to achieve some goal? What are the effects on information loss, message distortion, uncertainty levels, etc., of varying the complexity of the structure? Under what conditions can the complexity of an organization's communication system be so great that it is impervious to managerial control? To what extent can technology be used as a substitute for human-organized structure?

Communication Function Research Questions. As we indicated earlier, function refers to the outcomes or consequences of various types of messages moving through the organization. Once the existing distribution of messages by functional categories is established, an important question becomes the effect of altering the existing distribution. For example, in organizations where production goals are paramount, messages concerning various aspects of production are understandably crucial. Increasingly, however, messages dealing with the generation of innovations, and with the maintenance of self- and work-relationships are also seen as important--but few studies have explored the topic in any detail.

A second important topic in this area deals with the organization's rules or policies for deciding who is empowered to initiate messages, what information they are to contain, what channels they are to be disseminated along, and the form of the message (difficulty level, verbal vs. visual components, "tone" or command aspect, etc.). Closely tied with this question is the economic issue: what are the alternative messages available to accomplish a task, and what are the relative costs of the alternatives? Given the alternatives, their costs, and some indication of their effectiveness, then strategy decisions on the basis of efficiency are possible.

System Level Research Questions. Many of the research topics noted above obviously deal with the range of system levels that were enumerated earlier. One other research question, which also cuts across the range of system levels, deals with the efficacy of various techniques for intr ducing changes in communication relationships among organizational members, particularly where hierarchical

relations are involved. Although there are several instances where this problem could arise, it is perhaps most often seen where the top management of an organization has adopted many of the values and principles of contemporary organization theory (with its stress on "openness," human relations and human resources). However, top management finds middle and lower-level management engaged in inconsistent if not contradictory behaviors. Thus the problem becomes one of determining the appropriate communication behaviors for middle and lower management, determining ways to insure their adoption and continued use, and monitoring the consequences of having achieved (at least partial) adoption of the goals of top management.

In this paper, we have drawn on a wide variety of disciplines for their inputs to studying organizational communication, and we have attempted to organize these inputs around the dimensions of structure, function and system level. In addition to reviewing concepts we feel are particularly useful in studying organizational communication, we have also indicated some of the research questions of primary concern. As work progresses in concept explication, breadth of data bases, and theoretical evolution, the field of organizational communication should become better able to deal effectively with the problems which currently confront it.

References

Ackoff, R. (1957-58)
"Towards a behavioral theory of communication."
Management Science, 4 (pp. 218-34). Also in Wm. Buckley (Ed.), Modern Systems Research for the Behavioral Scientist. Chicago: Aldine, 1968.

Berlo, D. K. (1970)
"Human Communication: the basic proposition."
Mimeograph, Department of Communication, Michigan State University, East Lansing.

Brillouin, Leon (1956)
Science and Information Theory, New York: Academic Press

Buckley, W. (1967)
Sociology and Modern Systems Theory. Englewood Cliffs: Prentice-Hall, Inc.

Burns, T. (1954)
"The directions of activities and communication in a departmental executive group: a quantitative study in a British engineering factory with a self-recording activity." Human Relations, 7 (pp. 73-97).

Coleman, James S. (1958)
"Relational Analysis: The Study of Social Organizations with Survey Methods," Human Organization, (17, pp. 28-36).

Davis, Keith A. (1953)
"A method of studying communication patterns in organizations."
Personnel Psychology, 6 (pp. 301-312).

Eilon, Samuel ( )
"Taxonomy of Communications," Administrative Science Quarterly (pp. 266-288)

Forsyth, Elaine, and Katz, Leo (1946)
"A matrix approach to the analysis of sociometric data," Sociometry, 9 (pp. 340-347).

Golembiewski, Robert, and Arthur Blumberg (eds) (1970)
Sensitivity Training and the Laboratory Approach. Ithaca, Ill.: Peacock.

Greenberg, B. S., and Razinsky, E. (1966)
"Some effects of variations in message quality," Journalism Quarterly, 43, 3 (pp. 486-492).

Guetzkow, Harold (1965)
"Communication in Organizations," Ch. 12 in Handbook of Organizations, James G. March, ed. Chicago: Rand McNally.

Guimaraes, Lytton (1968)
"Matrix Algebra in the Analysis of Interpersonal Diffusion of Ideas," Department of Communication, East Lansing, Michigan.

Gullahorn, John T. and Gullahorn, Jeanne E. (1963)
"A computer model of elementary social behavior." In E.A. Feigenbaum and J. Feldman (Eds.), Computers and Thought. N.Y.: McGraw-Hill.

Halpin, Andrew W., and Croft, Don (1963)
The Organizational Climate of Schools. Midwest Administration Center, University of Chicago.

Jacobson, E., and Seashore, S.E. (1951)
"Communication practices in complex organizations," Journal of Social Issues, 7, 3 (pp. 28-40)

Katz, Leo (1947)
" On the matrix analysis of sociometric data." Sociometry, 10: pp. 233-241.

Katz, D., and Kahn, R. (1966)
The Social Psychology of Organizations. N.Y.: Wiley.

Krippendorff, K. (1970)
"On generating data in communication research." Journal of Communication, 20, 3 (pp. 241-269).

Likert, R. (1961)
New Patterns of Management. N.Y.: McGraw-Hill.

MacDonald, Donald (1970)
Communication Roles and Communication Content in a Bureaucratic Setting. Unpublished Ph.D. dissertation, Department of Communication Michigan State University, East Lansing, Michigan.

Milgram, Stanley (1969)
"The Small World Problem." Psychology Today, 1969, pp 435-440.

Miller, G. R., and Hewgill, M. (1964)
"The effect of variations in nonfluency on audience ratings of source credibility." Quarterly Journal of Speech, 50 (pp. 36-44).

Miller, J. G. (1955)
"Toward a general theory for the behavioral sciences." The American Psychologist, (pp. 513-531).

Pile, John (1967)
"Clearing the mystery of the 'Office Landscape' or 'Burolandschoft,'" Interiors.

Propst, Robert (1970)
The Office - A Facility Based on Change, Business Press: Elmhurst, Ill.

Reindl, Max, H. (1970)
Propositions on Information Management of Innovation Processes in Organizations. Unpublished Ph.D. thesis, Department of Communication, Michigan State University, East Lansing, Michigan

Richards, William D., (1971)
"An Improved Conceptually-Based Method for Analysis of Communication Network Structures of Large, Complex Organizations," paper presented to 1971 International Communication Association, Phoenix, Ariz.

Ross, Ian, and Frank Harary (1955)
Identification of an organization using the structure matrix, Management Science, 1: pp. 251-258.

Ross, Ian, and Harary, Frank (1959)
"A description of strengthening and weakening members of a group." Sociometry, 22, 2: (pp. 139-147).

Schwartz, Donald F. (1968)
"Liaison-Communication Roles in a Formal Organization." Communications Report No. 1, Department of Communication, North Dakota State University, Fargo, N.D.

Shaw, Marvin E. (1964)
"Communication Networks," in Advances in Experimental Social Psychology, Leonard Berkowitz, ed, Vol, 1, New York: Academic Press.

Shotland, Robert L. (1969)
"The Structure of Social Relationships at Michigan State University: A Communications Study." Educational Development Programs, Report No. 302, Michigan State University, East Lansing, Michigan.

Thayer, Lee (1968)
Communication and Communication Systems in Organization, Managment, and Interpersonal Relations. Homewood, Ill,: Irwin.

Walton, E. (1963)
"A Magnetic Theory of Communication," NOTS publication 111. China Lake, Calif.: Naval Ordinance Test Station.

Watzlawick, Paul, Beavin, Janet, and Jackson, Don D. (1967)
Pragmatics of Human Communication, New York: W.W. Norton

Weick, K.E. (1969)
The Social Psychology of Organizing. Reading, Mass.: Addison-Wesley.

Zajonc, R. B., and Wolfe, Donald M. "Cognitive consequences of a person's position in a formal organization." Tech. Report 23. Ann Arbor: Institute for Social Research, University of Michigan.